Lambo Door Conversion Instructions www.M-99.co.uk

Lambo doors are doors that open vertically instead of horizontally. They are also referred to as "jack knife doors" or "lambo doors", which refers to the doors on a Lamborghini, an Italian sports car. Below is a picture of a modern Lamborghini Diablo SE.

Will electrical wires need to be extended? Depending on the type of vehicle and the position of the hinge, you may be required to extend electrical wires running into your door. Wires for door controls, power mirrors, and speakers may need to be extended if they are not long enough to allow the door to raise vertically.

Is it feasible for your vehicle? Lambo doors can be engineered for any vehicle.

Installing Lambo doors on your vehicle

Despite what you may believe, Lambo doors are not that difficult to install. There are plenty of body shops out there that will charge you from £1000 to £6000 for this modification, but that is a ridiculous price to pay for what you are really getting. Yes, it looks like an extreme mod, but in reality, all that you need is a pair of custom hinges, and a pair of pressurized gas struts, and a little welding experience!

The toughest part of this project is to find a hinge for your needs and to get it welded in the proper position so that everything aligns properly.

Overview of the process:

1. Remove the door from the vehicle.
2. Remove the factory hinges.
3. Remove the door latch.
4. Inspect the electrical wires and make sure they are long enough for the door to swing vertically 90 degrees. If not, extend the wires so they will reach.
5. With the help of a couple friends, hold the detached door in place and mimic the desired motion of the door. This will let you know how the hinge needs to work and where it needs to be mounted so that the door will function properly.
6. Purchase or manufacture a sturdy hinge that will allow the door to swing in the motion determined previously in step 5.
7. Temporarily attach the door to the vehicle with the new hinge and, with the help of your friends, lift the door up and down making sure that everything aligns properly and that nothing is in the way.
8. Purchase a pressurized gas strut and mount one end to the vehicle chassis and the other to the door. This will raise the door and keep it from falling when you are climbing in and out of your vehicle.
9. Redesign the latching mechanism for the door. Since the door doesn't open horizontally anymore, the system will need to be rotated so that it can latch vertically. This may require that the end of the door be

shaved in an inch or two. No big deal for anyone with a little welding experience.
10. Test the operation of the door. Make sure that the gas strut is strong enough to hold the weight of the door, and test the redesigned latching mechanism. Make sure that everything is permanently welded in place.
11. Repeat for the other door. This will be easier and go much quicker now that you know what needs to be done.
12. Refinish the paint on the inner door surfaces

Obtaining the Hinges

If you have an engineering factory near you, have them look at your door and they should be able to manufacture a pair of custom hinges for your vehicle for about £150. Otherwise, you will need to purchase a pair of hinges.

Below, we have listed 2 companies that manufacture hinges (and full kits) for lambo door applications:

Street Dreams (website: http://www.iserv.net/~strdream)

Street Dreams in America offers many different packages of scissor door conversions and ship overseas. You can purchase a pair of hinges for just over £230, or you can buy the entire installation kit for £390. The installation kit includes everything you will need such as hinges, mounting plates, gas struts, and mount hardware.

(Above is a picture of the Street Dreams installation kit)

Decah.net (web: http://www.decah.net)

Again in America this company offers a VDC (Vertical Door Conversion) package for many makes and models. These packages bolt directly onto the vehicle and do not require welding, drilling, cutting, or painting! Install time is less than 2 hours! The price for the complete kits start at just £495 which is far cheaper than similar products available in the UK / Europe. Also, Decah has state that these kits can be converted to fit almost any vehicles with slight modifications.

Obtaining a pair of gas struts

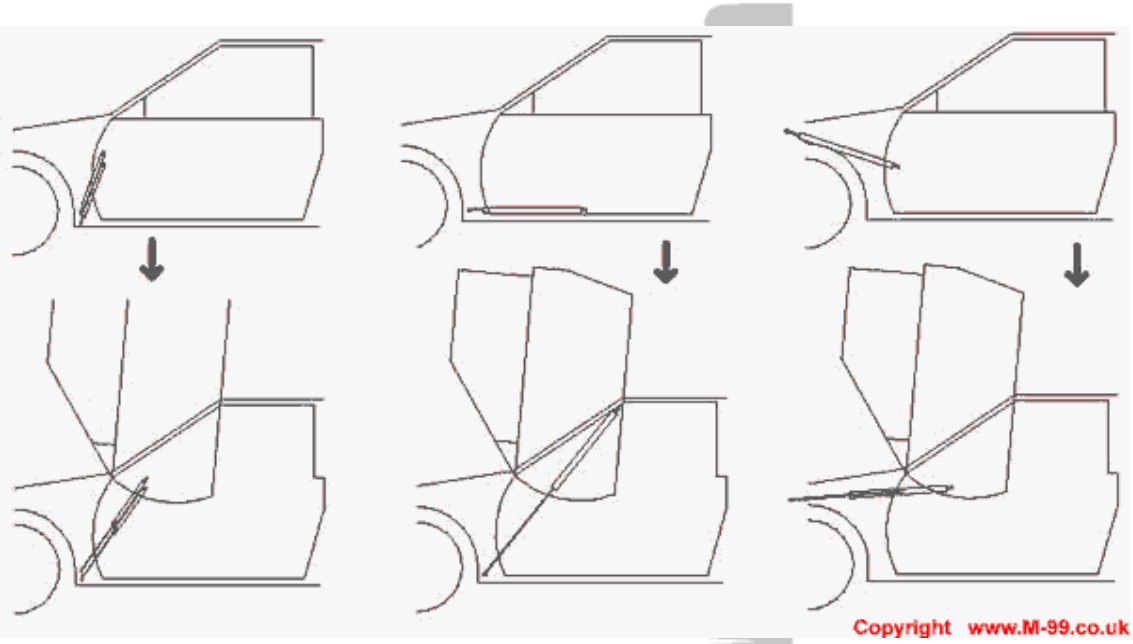
If you purchase the entire installation kit from Street Dreams you will receive a pair of gas struts. If you are trying to do this installation cheaply, you can find a used pair of struts at a scrap yard for about £5. Look for strong bonnet/boot struts. They will need to be very strong in order to hold up the weight of your door. This is especially true if you intend to mount the strut to the door very close to the hinge. Less force will be required to lift the door if you mount the strut as far away from the hinge as possible. However, the farther you mount the strut down the door, the longer the strut will need to extend. This is why you need to analyse your door and determine where you will need to mount the gas strut on the door and on the chassis of the vehicle.

Before choosing a pair of struts, you will need to make sure that they are long enough to reach from the mounting position on the chassis to the mounting position on the door when the door is fully extended.

The last thing you want is a door that won’t stay up on its own.

If you install the strut and find that the door wont stay up on its own, you will have to mount the strut further down the door away from the hinge. This will require less force to lift the door. If this still doesn’t help, or if you can’t position the strut any lower, you will have to find a stronger set of struts or you could add another strut to the door. To order a stronger pair of struts go to a car parts shop and ask for their assistance. They will then order a pair of struts that will work for your particular application.

Possible gas strut mounting positions



Converting the door latch

At this stage, you should have the door mounted and the gas strut installed and working. The door should go up easily and smoothly (on its own or with a little help). When the door is shut everything should be aligned properly, and you should make sure that the door will be snuggly against the rubber seals around the top of the door. Now that the door looks great on your vehicle, you'll need to convert the latch so that you can keep your door shut and locked.

Previously, your door latch probably consisted of a stiker pin mounted to the vehicle and a latch in the door with a horizontal opening to accept this striker pin. Now that the door will be closing vertically, the latching system will have to be redesigned.

Option 1: Try to save some money by using your existing latches....

The door should still be take apart from the hinge and strut installation. So take a look at how your latch works. Would it be possible to use the existing latch with a little cutting, welding and engineering? A possible solution would be to cut the latch out of the door and engineer a way for it to mount vertically within the door. Keep in mind that you'll also have to reposition the stiker pin on the vehicle. Below is a picture of a striker pin installation:

It appears to be some kind of pneumatic striker. It probably pulls the door in against the car, and or pushes it away from the car when being opened.) If you have a vehicle that requires the door to be pushed away from the door frame before swinging up, you can look into installing such a system. However, you can accomplish the same thing by simply mounting the hinge at an angle. Instead of mounting it straight up and down, you can mount it angled so that the top of the hinge is angles up and away from the vehicle. This way the door will swing away from the vehicle and not straight up and down. This will allow the top of the door to clear the top of the car, and it will also keep the lower bottom corner from wedging in the doorway.

Also, since the door will be swinging down onto the striker pin, you will probably have to modify the end of the door to allow the stiker pin to pass through. For example, you can cut a small groove up the middle of the end of the door up to the opening of the latch. This will allow the striker pin to pass through. (Note that this solution will **NOT** work with the way the striker pin is position above. For the striker position pictured above, the door latch will need to protrude from the door, or a couple inches will need to be shaved from the end of the door.)

Option 2: Try to save time and aggravation by purchasing new latches...

If you don't want to use your existing latches, you can simply purchase a new set specifically designed for scissor door applications. Usually, these latches are designed like the ones pictured below:

For £30, you can obtain a pair of Lambo door latches and striker pins from http://www.iserv.net/~strdream

To install them, you'll have to cut out the existing latch, taking note of exactly how it functions. Then you'll have to weld in the new latch, and you'll have to cut and weld to install the new striker pin as well. You'll probably have to modify the end of the door to allow the striker pin to pass by without hitting the door, but if you've made it this far it should be a piece of cake.

(Note how the circled area above has been shaved in to allow the striker pin to pass.)

To allow the striker pin to pass by, you will probably have to modify the end of the door like in the picture above. Shaving most of the end of the door, like in the picture above, will produce the best results. If you just try to cut a groove up the middle of the end of the door, then the door must swing perfectly along that axis. For example, if you cut a groove straight down the middle of the end of the door, then the door must swing perfectly up and down in order for the striker pin to pass through. If there is any flex at all in the door, the pin will scrape the door, chip the paint and maybe even get stuck from time to time. So it is definitely best to shave the entire area on the end of the door like in the picture above.

Installation Tips

1. After mounting the door to the hinge, wrap a flexible plastic hose over the electrical wires running to the door and secure the hose alongside the door hinge. This will prevent the wires from being stretched when the door is being raised.
2. If the bottom corner of the door hits the door frame when being opened, the hinge needs to be mounted with the top edge angled up and away from the vehicle. (Instead of just mounting it straight up and down.) This will cause the door to open out and up instead of coming straight up.
3. You should only angle the hinge enough to allow the door to open properly. If you have it swinging out too far, your door won't have enough room to open in tight parking spaces.

Summary

Depending on you're DIY ability a Lambo door conversion can be done for under £200. If you are more of a novice then we recommend you look into the products available from both http://www.decah.net and http://www.iserv.net/~strdream

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